REMARKS

The Examiner's attention to the present application is noted with appreciation.

The Examiner rejected claims 3, 5, and 7 under 35 U.S.C. § 112, second paragraph, as indefinite. Corrective amendments have been made, above, as well as other amendments to enhance clarity.

The Examiner rejected claims 1, 2, 4, and 6 under 35 U.S.C. § 102(b) as being anticipated by Uchiyama et al. ("Uchiyama"). The rejection is traversed, particularly as to the claims as amended.

Uchiyama teaches a device with two lasers 1,2 generating two beams 1',2'. The lasers are separate, laser 1 directing beam 1' horizontally through powder being delivered downward by material supply device 3, and laser 2 directing beam 2' at the point of deposit on the substrate.

Uchiyama does not teach or suggest either "a laser nozzle assembly having multiple laser beams coupled with said powdered material from a set of powder nozzles directed to approximately a same location". Uchiyama has two separate lasers, not a laser nozzle assembly. The laser beams are not coupled with the powdered material from a set of powder nozzles but rather are oriented independently of the material supply device. In fact, Uchiyama teaches away from the nozzle/beam coupling of the present invention.

The Examiner rejected claims 5 and 7 under 35 U.S.C. § 103(a) as being unpatentable over Uchiyama. The rejection is traversed, particularly as to the claims as amended. The deficiencies of Uchiyama are noted above.

The Examiner rejected claim 3 under 35 U.S.C. § 103(a) as being unpatentable over Uchiyama in view of Schaefer et al. ("Schaefer"). The rejection is traversed, particularly as to the claims as amended. The deficiencies of Uchiyama are noted above, which are not cured by Schaefer.

The Examiner rejected claims 1-7 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2, 9, 10, and 12-14 of U.S. Patent No. 6,268,584. The rejection is obviated by the terminal disclaimer filed herewith.

Also being filed herewith is a Petition for Extension of Time to August 13, 2002, with the appropriate fee. Authorization is given to charge payment of any additional fees required, or credit any overpayment, to Deposit Acct. 13-4213. A duplicate of this paper is enclosed for accounting purposes.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached paper is captioned "**Version with Markings to Show Changes Made**." An earnest attempt has been made to respond to each and every ground of rejection advanced by the Examiner. However, should the Examiner have any queries, suggestions or comments relating to a speedy disposition of the application, the Examiner is invited to call the undersigned.

Reconsideration and allowance are respectfully requested.

Respectfully submitted,

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Version with Markings t Sh w Changes Made

In the Claims:

Please amend the claims as follows:

1. (Amended) A direct material deposition method comprising the steps of:

a. providing a powdered material that can be incited by a laser beam;

b. providing a laser nozzle assembly having multiple laser beams coupled with said powdered material from a set of powder nozzles directed to approximately [the] a same location;

c. positioning a deposition substrate adjacent to [the] laser deposition head outlets;

d. [melting] heating said powdered material with said laser beams; and

e. providing relative motion between [the] said laser deposition [apparatus] head outlets and said deposition substrate.

2. (Amended) The method of Claim 1, wherein said [powdered material is melted with said laser beams, whereby the melted] heating step fuses said powdered material [is fused] to [a] said deposition substrate to create a thin layer of material.

3. (Amended) The method of Claim 1, wherein said heating step vaporizes said powdered material [is vaporized with said laser beams], whereby the vaporized powdered material is deposited onto [the] said deposition substrate to create a thin layer of material.

4. (Amended) The method of Claim 1, wherein in said providing r lativ motion step the relative motion derives from a CAD model.

5. (Amended) The method of Claim 4, [wherein] additionally comprising the step of employing a single laser beam [can be used] to outline features defining surfaces of an object under construction.

6. (Amended) The method of Claim [4] 5, [wherein said] additionally comprising the step of employing multiple laser beams [are used] to fill [the] featureless regions defining [the] surfaces of said object.

7. (Amended) The method of Claim 1, wherein said laser beams are controlled individually, [whereby] and wherein one or more of the beams [may be] are modulated on and off during [any] part of the deposition process to create one or more line deposits simultaneously.

Please add new claims as follows:

--8. The method of Claim 7, wherein said laser beams are controlled individually, and wherein two or more of the beams are modulated on and off during part of the deposition process to create two or more line deposits simultaneously.

9. A direct material deposition method comprising the steps of:

a. providing a powdered material that can be incited by a laser beam;

b. providing a laser nozzle assembly having three or more laser beams coupled with said powdered material from a set of powder nozzles directed to approximately a same location;

c. positioning a deposition substrate adjacent to laser deposition head outlets;

d. heating said powdered material with said laser beams; and

e. providing relative motion between said laser deposition head outlets and said deposition substrate.

10. The method of Claim 9, wherein said heating step fuses said powdered material to said deposition substrate to create a thin layer of material.

11. The method of Claim 9, wherein said heating step vaporizes said powdered material, whereby the vaporized powdered material is deposited onto said deposition substrate to create a thin layer of material.

12. The method of Claim 9, wherein in said providing relative motion step the relative motion derives from a CAD model.

13. The method of Claim 12, additionally comprising the step of employing a single laser b am to outline features defining surfaces of an object under construction.

14. The method of Claim 12, additionally comprising the step of employing multipl laser beams to fill featureless regions defining surfaces of said object.

15. The method of Claim 1, wherein said laser beams are controlled individually, and wherein one or more of the beams are modulated on and off during part of the deposition process to create one or more line deposits simultaneously.

16. The method of Claim 15, wherein said laser beams are controlled individually, and wherein two or more of the beams are modulated on and off during part of the deposition process to create two or more line deposits simultaneously.--